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# Evaluation of animal welfare in dogs working with animal assisted interventions for elderly people with dementia

# Evaluering av dyrevelferd hos hund som jobber med dyreassisterte intervensjoner for eldre mennesker med demens

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## Acknowledgement

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Within this project I have been lucky to participate, focusing on the welfare of the dogs that are involved in this type of work. Dogs for me are associated with joy, happiness, and unconditional love. Their joyful spirit can bring a smile to many people's face, and I am convinced that animal assisted interventions are beneficial in several parts of our community, i.e. schools, nursing homes etc. For me it is important to know that the dogs involved in this kind of work do not suffer, and by being a part of this project I have obtained an insight in their experience of being animal assisted intervention dogs.

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_____

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## Abstract

Animal assisted interventions (AAI) have a beneficial effect on human health, but little research is done on the impact this kind of work has on the animals involved. The aim of this study is to evaluate the welfare of dogs working with AAI for elderly people with dementia during a period of 12 weeks, with two intervention days per week. Thirteen dogs participated in the study, five in animal assisted therapy (AAT) and eight in animal assisted activity (AAA). Video recordings were made during the therapy session, one in week 2 and one in week 10 per dog. Stress-associated behaviours (i.e. yawning, panting, vocalization, licking of nose, avoidance) were registered in addition to behaviours referring to the interactions between the dog and the people (i.e. head orientating, handling, etc.) as well as general behaviour (i.e. body position, movement, etc.). The dogs were observed in a behavioural test six times during the 12 weeks to measure concentration and motivation. These tests were conducted two times on resting days (in week 0 and week 6) and two times on working days (in week 2 and week 10) both before and after the visit. In addition the handler filled out log-sheets of the dogs' and participants' behaviours during the visits. Two of these sheets were used in the analyses (from week 2 and week 10).

No significant differences were found for any of the behavioural variables when comparing the video recordings from week 2 and week 10. No significant differences were found in the dogs' behaviours during the behavioural test when comparing baselines with different days, or behaviours before and after the interventions in week 2 and week 10. From the log sheets two significant differences were found when comparing week 2 with week 10; according to the opinion of the handler the dogs were less dependent on their handlers during week 10, and they responded better on commands from their handlers during week 10. The results show that the dogs experience little stress during visits, and that their experiences are constant over time. In addition they became more respondent to commands and less dependent on their handlers over time. This might be due to the dogs getting more familiar with the new environment and the people involved over time. The results from this study might indicate that the welfare of dogs working with animal assisted intervention is not compromised.

## Sammendrag

Dyreassisterte intervensjoner (DAI) har en god effekt på helse hos mennesker, men lite forskning er gjort på hvordan denne type jobb påvirker dyrene som er involvert. Målet med denne studien er å evaluere velferden til hunder som jobber med DAI for eldre mennesker med demens i en periode på 12 uker, hvor det er to intervensjoner per uke. Tretten hunder deltok i prosjektet, fem innen dyreassistert terapi (DAT) og åtte innen dyreassistert aktivitet (DAA). Intervensjonene ble filmet en gang i uke 2 og en gang i uke 10 per hund. Stress relaterte atferder (f.eks. gjesping, pesing, vokalisering, slikking av snute, unngåelse, etc.) ble registrert i tillegg til atferder som refererer til interaksjon mellom hund og mennesker (f.eks. hodeorientering, håndtering, etc.) samt generell atferd (f.eks. kroppsstilling, bevegelse, etc.). Hundene ble observert i en atferdstest seks ganger i løpet av de tolv ukene med formål om å måle konsentrasjon og motivasjon. Disse testene ble gjennomført to ganger på hviledager (en i uke 0 og en i uke 6) og to ganger på arbeidsdager (en i uke 2 og en i uke 10) da både før og etter selve intervensjonen. I tillegg har hundeførerne fylt ut et loggskjema angående hundens og deltakernes atferd under intervensjonene. To av loggskjemaene (fra uke 2 og uke 10) ble brukt i analysen.

Ingen signifikante forskjeller ble funnet for noen av atferdsvariablene når videoopptakene fra uke 2 og uke 10 ble sammenlignet. Ingen signifikante forskjeller ble funnet i hundenes atferd under atferdstestene når referansetesten (uke 0) ble sammenlignet med ulike dager, eller når testene før og etter besøkene fra uke 2 og uke 10 ble sammenlignet. Fra loggskjemaene ble to signifikante forskjeller funnet når uke 2 ble sammenlignet med uke 10; ifølge hundeførerne var hundene mindre avhengige av førerne i uke 10, og de responderte bedre på kommandoer fra førerne i uke 10. Disse resultatene viser at hundene opplever lite stress under et besøk, og deres opplevelse av situasjonen er konstant over tid. I tillegg responderte de bedre på kommandoer og ble mindre avhengige av hundeførerne over tid. Dette kan forklares med at hundene ble mer kjent med det nye miljøet og de nye personene som var involvert i prosjektet. Resultatene fra denne studien kan indikere at velferden til hunder som jobber med dyreassisterte intervensjoner ikke blir svekket.

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# 1. Introduction

The use of animals to increase the well-being of people with different mental or physical problems (i.e. dementia, anxiety, depression, lonely elderly people, kids who have problems with reading and/or writing, and so on) is a growing area of interest. Animal-assisted interventions (AAI) is defined as any intervention that intentionally includes or incorporates animals as part of a therapeutic or ameliorative process or milieu (Fine 2010). AAI is a generic term for animal-assisted activity (AAA) and animal-assisted therapy (AAT).

AAA refers to a general category of interventions with spontaneous content, volunteer implementation and no participant-specific goals. It involves introduction of a companion animal to an individual with the expectations that this animal will provide short-term benefits to the individual (motivational, educational, recreational, and/or therapeutic benefits) to enhance quality of life. The dog is present for a social aspect and AAA can be used in different environments, often by volunteers in association with animals that meet specific criteria (Fine 2010).

AAT has the same aim as AAA, but it is a goal-directed intervention in which an animal that meets specific criteria is an integral part of a treatment process for the individual(s) involved. AAT is often directed by a health/human service professional with specialized expertise for the field they work in (Fine 2010).

# 2. Literature/ theoretical background

## 2.1 Dementia

The age structure in our society is changing, and people generally grow older than they did 100 years ago. Previously rare diseases are getting into focus and this challenge the society to find solutions for elderly people facing health problems, i.e. dementia.

Dementia is an overall term for a decline in mental ability severe enough to interfere with daily life (Alzheimer's Association). The symptoms for dementia are significant impairment of several functions like memory, communication and language, the ability to focus and pay attention, reasoning and judgment, and visual perception. These symptoms can lead to restlessness and wandering, agitation, aggression and anxiety, fear and confusion, frustration, etc (Bernabei et al. 2013; Hatch 2007; Mossello et al. 2011; Nordgren & Engstrom 2012; Perkins et al. 2008), which will cause these individuals distress. It can also influence the people around them negatively, like relatives, caretakers, residential neighbours as well as staff in nursing homes/day care centres.

AAI is a method used to benefit human health and well-being, and it has shown a positive effect in humans with dementia. When interacting with dogs people get a pleasant tactile stimulation, companionship and non-verbal communication, and the company of a dog seems to have a good impact on people with dementia (Mossello et al. 2011; Nordgren & Engstrom 2012). The effects are thought to be due to the dogs providing companionship regardless of the person's cognitive functions, and one can argue that the dog listens without judgement compared to human companionship (Perkins et al. 2008). Compared to a friendly volunteer, patients at a nursing home were more likely to look forward to a visit from a dog (70%) than from a human (30%) (Marcus 2013). Interactions like AAA and AAT have shown to increase both psychological and physical health, as well as improvement of social, emotional and cognitive functions (Beetz et al. 2012). Both AAA and AAT are shown to have a decreasing effect on production of stress hormones like epinephrine and norepinephrine, lowering of the arterial blood pressure and it stimulates an increase in production of hormones with an anti-stress effect like endorphine and oxytocine, which can also increase pain treshold (Beetz et al. 2012; Bernabei et al. 2013; Handlin et al. 2011; Marcus 2013; Odendaal 2000; Odendaal & Meintjes 2003). This has resulted in less anxiety, loneliness and sadness (Marcus 2013; Mossello et al. 2011; Vrbanac et al. 2013), lighter atmosphere, improved mood in the participants and enhanced quality of life (Engelman 2013; Nordgren & Engstrom 2012). In

addition AAI increases social behaviour and motor activity, and it has an improving effect on emotional functions and communicative behaviour. (Bernabei et al. 2013; Marcus 2013; Vrbanac et al. 2013).

## 2.2 Welfare in dogs

Animal welfare is defined as an individual's state in regards to its attempts to cope with its environment at a physiological, behavioural and medical level (Broom 1986). Measuring stress responses in a dog can be a way of identifying welfare problems they might experience in different situations (Beerda et al. 2000). Both chronic and acute stress can manifest in physiological and behavioural responses in the dog. Acute stress response can be described as an evolutionary evolved trait to cope with environmental, physiological and behavioural challenges to ensure one's survival and reproductive fitness (Mariti et al. 2012). When subjected to stressful stimuli the body respond by secreting a group of hormones from the hypothalamus, the pituitary and the adrenal (HPA) glands. The body is then prepared for "fight or flight" response, and the secretion of hormones will subside when the emergency is over (Fine 2010). If acute stress evolves into chronic stress it can have a compromising effect on a dog's welfare, both physically and physiologically. Health issues like heart failure, high blood pressure, ulcers, allergies and other skin problems can be associated with prolonged stress in dogs (Beerda et al. 1997; Dreschel & Granger 2005; Koolhaas et al. 1999).

## 2.3 Stress responses in dogs

Stress can be measured both in physiological and/or behavioural responses during or after the dog has been exposed to different stimuli.

### 2.3.1 Physiological stress responses

When measuring physiological responses of stress the most commonly used method is to look at concentrations of cortisol in either blood or saliva. While blood collection requires skilled technical capabilities, the sampling of saliva is relatively easy (Dreschel & Granger 2009). Salivary samples are generally collected by swiping a cotton-covered swab in the dog's mouth. This is a well used method in several studies (Beerda et al. 1998; Beerda et al. 2000; Glenk et al. 2011; Glenk et al. 2013; Glenk et al. 2014; Handlin et al. 2011; Haubenhofer & Kirchengast 2006; Haverbeke et al. 2008; Horváth et al. 2007a; Odendaal & Meintjes 2003) and it can give a useful measure of stress in dogs.

Previous studies where samples of saliva were used to measure cortisol concentrations have shown inconsistent results. When measuring cortisol levels in dogs before and after a session of AAA or AAT it was found significantly higher concentrations of cortisol after the session compared to before the session started, but dogs that had sessions that started before 2:00 p.m. showed significantly higher cortisol concentrations after the session compared to before (Haubenhofer & Kirchengast 2006). In addition the cortisol concentrations were significantly higher on days when the dogs had been on AAA- or AAT-sessions compared to days of control (days without therapy/activity work). In a other study there was found no significant differences in salivary cortisol at baseline levels (days without therapy/activity work) compared to working levels (Glenk et al. 2013). Inconsistencies in these results, both within and between studies, shows that further information and investigation into dog's changes in cortisol levels throughout the day is necessary. Measuring cortisol has not been used as a method in this study and will therefore not be further discussed here.

### 2.3.2 Behavioural stress responses

Behavioural responses to different stimuli and in different settings can be an indicator of stress in dogs. Increased locomotor behaviour, body shaking, low posture (crouching), vocalisation, panting, oral behaviour (licking of nose, tongue out, swallowing, smacking) yawning, paw lifting and urination among others are typical signs of acute and/or chronic stress in dogs (Beerda et al. 1998; Beerda et al. 2000; Haverbeke et al. 2008).

Beerda et al. (1998) exposed dogs to different types of stimuli (being pressed to the floor, being pulled down towards the floor, falling of a bag, opening of an umbrella, a loud noise and an electrical stimuli). The dogs performed body shaking and crouching, and they changed body position and sectors in their cages more often after stimulation. Oral behaviours were more increased after press, pull and umbrella compared to the other stimuli.

Haverbeke et al. (2008) looked for the same behavioural responses to stress in working dogs being exposed to different stimuli after 30 min. of obedience and protection exercises. The dogs were exposed to a mobile and noisy car, and a loud blast from a gun fired 1 meter from the dog. The results showed that the dogs had increased repetitive pacing before and between the different stimuli, but the stimuli itself did not stimulate any of the behavioural responses that were measured. This may indicate that the stimuli were perceived as interesting and exciting compared to the barren kennel environment the dogs were put in during the tests. Due to their training and line of work they might have been exposed to, and thus habituated to

this kind of stimuli. In addition working dogs represent a breeding line with physiological differences compared to i.e. show-bred dogs, but this will not be further discussed in this paper.

In AAI settings it is important that the dogs are well prepared for such situations, and that the owner/handler are skilled enough to recognise signs of stress and discomfort in their dog(s). When conducting a survey about general dog owner's perception of their dog's stress, Mariti et al. (2012) found that over half of the respondents (60%) had a correct view of the definition of stress and how it could influence their dog's welfare. Distinct behaviours like trembling, panting and vocalizations were regarded as indicators of stress by about 60% of the respondents. The more subtle signs of stress, like excessive eating/ drinking, nose licking, yawning and paw lifting, were only regarded as indicators of stress by less than 10% of the respondents. This shows that not all owners can perceive when their dog is showing signs of stress, but it is possible to assume that people working with AAI has more training in recognising subtle cues compared to general dog owners.

## 2.4 Coping strategies

There are different ways to cope with stress and coping strategies or styles are shown to have a reducing effect on stress (Wechsler 1995). Coping is defined as a coherent set of behavioural and physiological stress responses which are consistent over time and situations and which are characteristic to a certain group of individuals (Horváth et al. 2007b; Koolhaas et al. 1999). It is a behavioural response that aims at reducing the effect of aversive stimuli that can induce physiological stress reactions in animals (Wechsler 1995). Coping strategies have been suggested to be adaptive mechanisms positively selected trough evolution.

Wechsler (1995) classified coping strategies into four groups; Escape behaviour, remove behaviour, appetitive behaviour and wait behaviour. Escaping the stimuli or removing the stimuli are both effective coping styles. Appetitive behaviour can arise when an aversive situation contains absence of a stimulus to release a specific behaviour. In these situations high levels of locomotory and exploratory behaviour occur to enhance the probability of finding the absent stimulus. If none of these coping strategies work, it is not adaptive to repeat them over and over again. The animal may then conserve energy and go into an apathetic state, just waiting out the situation (also known as learned helplessness).

A more general way of grouping coping strategies are proactive (active) and reactive (passive) coping (Horváth et al. 2007b; Koolhaas et al. 1999; Wechsler 1995). Proactive coping strategies are numerous and varied, and are characterized by a high level of aggression, territorial control, short attack latency, and active attempts to counteract the stressful stimuli. Reactive coping are generally characterized by immobility, low levels of aggression, and long attack latency (Koolhaas et al. 1999).

Horváth et al. (2007) exposed police dogs (in absence of their owners) to a stranger approaching them threateningly. By a factor analysis they found three factors describing reactions in the dogs; Fearfulness (frightened behaviour, oriented decoy, backing up, attack, handler greeting and orientation towards handler), aggressiveness (barking, tail wagging, and pacing), and ambivalence (paw lifting, mouth licking, running, looking away, and immobility). This last grouping revealed dogs that where highly active (barking, pacing) when the stranger was at a distance, but when the stranger came closer the dogs started to show paw lifting, mouth licking and looking away, which are all signs of acute stress ((Beerda et al. 1997; Beerda et al. 2000; Koolhaas et al. 1999). Older dogs tended to be more fearful and/or ambivalent than younger dogs. Dogs in group fearfulness and ambivalence had significantly higher cortisol levels after the tests had been performed, while the dogs in group aggressiveness did not have any significant changes in cortisol after the tests compared to before the tests.

## 2.5 Coping with stress influencing welfare

Considering stress influencing dog welfare, we should address the question; when does stressful stimuli become severe enough to compromise the welfare of an individual? Broom (1986) reports two general indicators of poor welfare; (1) an individual has failed to cope with an environment, and (2) the effort involved and the extent of an individual's attempts to cope is 'too much'. It is difficult to specify what 'too much' is, as it can depend on the situations and individuals involved. One could argue that if attempts of coping and the effort involved take up more time than normal activities during a day, the individual has failed to cope with the stimuli. Coping strategies, and associated behaviour, are in itself a positive occurrence when stressful situations and/or stressful stimuli arise. This means that the individual has found a way to 'let off steam' and is trying to cope with the situation. When life important activities like sleeping and eating are compromised due to performance of coping behaviours we could say that the attempts of coping has gotten to be 'too much' and the welfare of this

individual is declining. If stressful stimuli reach high frequencies and/or long durations over a period of days, months or years, they become part of the everyday life for an individual, giving the individual little or no time to recover and/or 'blow off steam' away from the stimuli. In situations like this it is understandable that chronic stress can arise.

On short term basis, coping with stress involves temporary elevated heart-rate and elevated cortisol levels in the blood, as well as performance of certain behaviours (i.e. displacement signals like panting, licking of nose, yawning, etc.), but if stressful stimuli becomes prolonged coping involves elevated hormone secretion from the adrenal glands and behaviour modifications on a long term basis (Broom 1986). Beerda et al. (2000) found that elevated cortisol levels in blood samples are a strong indicator of chronic stress. They studied dogs that were living under different housing conditions during a period of 1 year or longer and the values of cortisol in the blood became progressively higher as the living conditions worsened. In addition they found that behavioural variables like locomotor activity, licking of nose and paw lifting could be indicators of both acute and chronic stress, and the dogs that were measured with the highest levels of cortisol in the blood, rarely exhibited high posture.

## 2.6 Human-animal communication and bonding

To understand some of the challenges a dog can experience during AAAs and AATs it is interesting to look at the way a dog can communicate with humans, and the other way around. Communication between humans is similar to the way dogs communicate with each other. Visual signals in the body and the face are at the core of how both humans and dogs communicate (Vas et al. 2005). I.e. when one dog greets another individual they have a grin that is similar to the human smile. Experiments conducted over the past 20 years show that dogs have a genetically based advantage in understanding pointing gestures, vocal signals and eye signals from humans when searching for food compared to wolves and chimpanzees (Hare & Tomasello 2005; Miklósi et al. 2004). Miklósi et al. (2004) reviews that domestication has promoted social skills in dogs, leading to the development of complex cooperative social interactions. This provides the dog with a set of skills that serves as basis for training dogs to assist people in different tasks.

The shared communication that dogs and humans have can explain some of the pull humans have towards dogs, and why we enjoy it so much being within their company. It has been stated that human-animal contact has a beneficial effect on human health and well-being. There are also evident signs that dogs find it just as pleasant to be around people. During

positive interactions (between human and dog) the blood pressure decrease in humans, and the same has been found to occur in dogs (Odendaal & Meintjes 2003). In a study conducted by Odendaal and Maintjes (2003) the positive interaction consisted of soft talking to the dog, gently stroking of the dog, low-key playing, and scratching of the dog's body and ears. Blood samples showed significant increase in the hormones endorphine, oxytocine and dopamine, which are all connected to pleasurable sensations, intimate bonding, blood pressure regulations, etc.

Positive or affiliative interactions can be described as any behaviour that is mutually beneficial for the individuals involved (Odendaal 2000). Interactions like that can be both intraspecific (between members of the same species) and interspecific (between members of different species), and the interaction between dogs and humans is a good example of interspecific affiliation. The greater need for attention a dog has, the more successful the bonding between human and dog will be (Odendaal & Meintjes 2003).

Play behavior can be considered as an affiliative interaction between human and dog. Cortisol concentrations were measured in two groups of working dogs (boarder guard dogs and police dogs) before and after a play session with their handlers (Horváth et al. 2007a). During play the police officers continually disciplined their dogs, and used signals to gain the dog's attention. The border guards showed more empathy and more enthusiasm during play, and also petted and praised their dogs more often. The different styles of play behaviour in the humans lead to different motivations for play behaviour in the dogs. The police dogs executed playfull behaviour as part of a training exercise while the border guard dogs played more spontaneously with their handlers. As a result the cortisol concentrations in the police dogs were significantly higher after the play session compared to the concentrations of the border guard dogs. This shows that the more affiliative behaviour in the humans contributes to reduction of cortisol concentrations in the dog, suggesting that play can have a calming effect as a social interaction.

The methods used for training a dog can also influence how well a dog can handle new stimuli and new situations. A questionnaire covering topics of training methods, obedience in the dog and problematic behaviour was filled out by 326 dog owners in England (Hiby et al. 2004). The results showed higher obedience scores in dogs trained using reward-based methods only, and specific tasks like 'walk to heel' and 'give up an object' and 'not chew on household objects' had higher obedience success when trained with positive praise, play and

treats as a reward compared to punishment. The study also showed a strong correlation ($P < 0,01$) between punishment and problematic behaviour when no correlation was found between problematic behaviour and reward based training methods. Hiby et al. (2004) also reports that reward based training, or positive reinforcement, results in improved human-dog relationship and that punishment as a training method can cause anxiety in the dog which can compromise the dog's welfare on a long term basis. To get secure, calm and positive dogs it is important that training is associated with fun and love from the dog's perspective. Reward based training gives more obedient dogs and they have less stress and anxiety resulting in less problematic behaviour.

## 2.7 Challenges for dogs working with people with dementia

> "*No other canine-related event, no sport nor competition requires a dog to enter the intimate zones of unfamiliar humans and remain there for several minutes of petting and hugging*"
>
> (Written by Buttler, K., presented by Fine 2010)

When working with AAIs for people with dementia it is important to consider the daily mood of the participant(s) and to have patience and understanding of their condition. Their behaviour can be unpredictable, and might seem irrational under normal circumstances. Even though an individual has met the dog before, there is no guarantee for him/her to remember this meeting. The participant's states of mind, like agitation, frustration and fear, can affect the dog by increased cortisol concentrations in their blood, leading to distress and fear in the dog as well (Horváth et al. 2007b). It is the handler's job to ensure that their dog is being handled correctly by the participants. Rough handling like pulling of tail or hair, squeezing and hugging, loud noises and so on should be avoided by carefully explaining the participants how they should interact and behave with and around a dog. Overlooking the situation and reading body language of the participants as well as the dogs can prevent unwanted occurrence of negative and/or dangerous situations (Fine 2010; Lefebvre et al. 2008). The handler is responsible for the dog's well-being, and should be observant of behavioural signs of stress and discomfort in their dog (Fine 2010; Lefebvre et al. 2008; Mariti et al. 2012). If signs of distress occurs the dog should be removed from the current situation, but ideally the situations should be corrected before the dog show any signs of being affected (Fine 2010).

A study of dogs working with animal assisted therapy were focusing on the effect of time-out sessions during work as a means for enhancing and securing good welfare for the dogs (King

et al. 2011). During work the dogs were taken to an empty room for some ‘quiet-play’ for 2 minutes with their handler, before going back to the intervention session. The results showed no significant differences in cortisol levels between the dogs that got a time-out session compared to the dogs that did not. Some of the handlers reported the dogs to be hesitant and/or confused when going back to work, indicating that the dogs thought their work was done for the day. This could be a good initiative to give the dogs a break, but more research is needed on the area.

Another study looked at the effect of strangers (humans) approaching normally socialized family dogs in a friendly manner (speaking in a friendly manner, smiling and approaches at a normal pace) (Györi et al. 2010; Vas et al. 2005). This provoked high levels of contact seeking in the dog, but when a stranger approaches in a threatening way (moves slowly and haltering towards the dog, slightly bent upper body, with eye contact) the dogs show aversion of gaze and avoid the stranger by backing away from them, often in combination with vocalisation. It should therefore be emphasised to participants in AAI how to approach a dog the correct way to ensure positive interaction between human and dog.

## 2.8 Hypotheses

The benefits in human health resulting from AAIs are a well documented and well researched area (Bernabei et al. 2013; Engelman 2013; Lane & Zavada 2013; Mossello et al. 2011; Nordgren & Engstrom 2012; O'Haire 2010; Odendaal 2000; Perkins et al. 2008; Vrbanac et al. 2013). When focusing on the dogs and how these interventions can influence them, the research is more limited.

The purpose of this study is to evaluate the welfare of dogs working with animal-assisted interventions for elderly people with dementia.

- The dogs will show signs of typical behavioural stress responses (see chapter 2.3.2) during an intervention.
- These stress responses will decline over time, when the situation is more familiar to the dog.
- The dogs will show less focus and concentration after a session compared to before the session starts in a behavioural test.

# 3. Materials and methods

## 3.1 Animals

Thirteen dogs of various breeds participated in the study. Both sexes were represented and their ages varied between 2.5 and 13 years, with an average age of 6.1 years (see appendix 1). The dogs were voluntarily submitted with and by their owners and to be accepted into the study they had to conduct and pass a mentality test. This test (appendix 2, see appendix 3 for translations) contains different elements like being handled by a stranger (i.e. touched, paw lifted, tail lifted, hugged and cuddled with ), exposure to different environments (a simulated 'living room', a hallway, outside), exposure to different floorings (slippery floor, staircases, metal grids, grass), testing of social behaviour in the dog, exposure to objects typical for a nursing homes (wheelchairs, crutches, walking frames, beds) and exposure to high sounds (sudden scream and gunshot). These tests were executed by dog-trainers and ethologists at the Norwegian Centre of Anthrozoology in Ås, Norway. In addition the owners had to fill out a declaration form about their own opinion of the dog's behaviour in different settings (appendix 4, see appendix 5 for translation).

After passing this test the 13 dogs were divided into animal-assisted therapy dogs (n=5) or animal-assisted activity dogs (n=8). The handler and the dogs assigned for AAT had completed the course 'Animal assisted interventions with dogs' at the Norwegian Centre of Anthrozoology before participating in this study.

## 3.2 Nursing homes and day care centres

The institutions that had volunteered for this project were randomly selected for control, AAAs or AATs. Five institutions were selected for AAT and eight institutions were selected for AAA.

The number of participants in each group varied from 3 to 8 with the mean number of 5.4 participants. Their age varied from 61 to 99 with a mean age of 84.9 years. Of all the participants 71% were women and 29% were men.

## 3.3 The interventions in AAA and AAT

The dog and their handler were assigned to one of the 13 nursing homes/day care centres involved in this project. Each dog visited their group twice a week for twelve weeks. In total each dog had 24 interventions with the same group of people.

The handlers were instructed to follow a standardized plan for the sessions. Every session lasted on average 30 minutes. It started with a greeting-round where all the participants got to meet the dog, pet it and talk to it and the handler for about a minute. After this the session started with different activities, and the handler was instructed to evenly split the time between all the participants. During an AAA session, the activities were restricted to petting the dog, giving treats, brush their fur and play with them (throw a ball, etc.). In an AAT session the participants took part in a variety of activities and exercises of varying difficulty:

- Petting the dog
- Give the dog a treat
- Take the dog for a little walk
- Throw a toy for the dog to fetch
- Give the dog a command (sit, lie down, 'play dead')
- Brush the dog's fur
- Take on/off the dog's leash
- Give the dog water
- Lift one leg for the dog to walk/crawl under
- Lift two legs for the dog to walk/crawl under
- Get the dog to walk slalom between the participant's legs
- Hold a ring for the dog to jump trough
- Cognitive training for the dog (an IQ-game)
- Obstacle courses for the dog and the participant to do together

At the end of the session the handlers were instructed to emphasize a goodbye-round where all the participants got to give one last treat/pet to the dog. This was to give the participants a distinctive, calm and positive ending to the sessions.

## 3.4 Behavioural test

The behavioural tests were conducted on average six times on every dog, divided over a period of 12 weeks. The first one (resting day 1) was conducted about a week before the first visit to a nursing home/day care centre, in a closed room at the Norwegian Centre of Anthrozoology. The second and third (called working day 1 before and working day 1 after respectively) were before and after an intervention in week 2. The test was set up outside the nursing homes/day care centres which meant that there could be distractions like cars, people walking by, etc. The fourth (resting day 2) were halfway in the period, in week 6, on a day where the dogs had not been visiting the nursing homes/day care centre. Also this test was conducted at the Norwegian Centre of Anthrozoology, in the same room as the first test. The fifth and sixth (called working day 2 before and working day 2 after respectively) were before and after an intervention in week 10, under the same conditions as the behavioural test in week 2.

The behavioural test consists of a board plank where a lid (for a small bucket) was fastened. The dog was on a leash behind a line about 1.5 meters from the plank. The experimenter was behind the plank, put treats on the lid for the dog to see, and then invited the dog to take the treat by pointing at the treat with the right index finger and say "go get it". When the dog took the treat the experimenter rewarded the dog verbally, and then asked the handler to put the dog back behind the line. Then the next step of the test started. In total the test consisted of ten steps, and between every step the dog was put back behind the line and waited for the experimenter to say "go get it" again.

The 10 steps were as followed:

1. A treat is placed on the lid without any obstacles.
2. Same as number 1.
3. A treat is placed on the lid and a bucket is placed halfway over the lid, halfway concealing the treat.
4. Same as number 3.
5. A treat is placed on the lid and a bucket is placed over the lid without fastening it. The treat is then concealed, but the dog can manage to reach it by pushing away the bucket.
6. Same as number 5.

7. A treat is placed on the lid and a bucket is placed over the lid and fastened so that the dog cannot get the treat. The examiner will abort this step 60 seconds after saying "go get it", and the dog is to be put back behind the line.
8. Same as number 1.
9. Same as number 3.
10. Same as number 5.

The aim of this test was to measure the intensity, duration and the dog's interest for retrieving the treat when it was 'impossible' (see step 7).

## 3.5 Data collection

### 3.5.1 Video recordings – Animal assisted interventions

Two video recordings were made from the interventions for each dog, one in week 2 (the 3rd or 4th intervention) and one in week 10 (the 19th or 20th intervention) of the in total 12 weeks (24 interventions). The camera was placed so that the participants, the dogs and their handlers were in the camera eye at the same time and as much of the time as possible. One dog had to be excluded from these registrations because the camera focus was primarily on the participants. The dog was mostly excluded from the picture frame, making the data from these videos too limited to analyze.

Behavioural observations (see table 1) were then recorded for every video using Solomon Coder beta 14.03.10. All the videos were behavioural recorded in a random order. Displacement signals were recorded in frequencies except from panting (duration). Other variables were recorded in duration.

### 3.5.2 Video recordings – Behavioural test

The behavioural tests described in chapter 3.4 were video recorded and the behavioural observations (see table 2) were processed using Solomon Coder beta 14.03.10. All the observations were recorded in a random order. All variables were recorded in duration.

**Table 1: Behavioural variables coded for in the video recordings of the interventions.**

| | Variable | Description |
|---|---|---|
| **Cognitive activity** | Initiated by participant<br>Initiated by handler<br>On the dog's own initiative | Search for something hidden,<br>iq-games and boards, etc. |
| **Technical activity** | Initiated by participant<br>Initiated by handler<br>On the dog's own initiative | Different exercises like "give paw", "high five", "play dead", "roll around" , etc. |
| **Physical activity** | Initiated by participant<br>Initiated by handler<br>On the dogs own initiative | Different exercises like throwing of a ball, jumping trough a hoop, etc. |
| **Head orientation** | Towards handler | The head and gaze oriented toward handler |
| | Toward participant | The head and gaze oriented toward participant |
| | Towards other | The head and gaze oriented toward other |
| **Body Posture** | Stand | Upright position with at least 3 paws in contact with the ground |
| | Sit | Hindquarters and front paw only in contact with the ground |
| | Lay | Resting position with trunk in contact with the ground |
| **Handling by human** | Sitting on participants lap | |
| | Being patted/stroked | Participant strokes, hugs and/or pat the dog |
| | Being handled by the participant | Receiving treats, being brushed |
| | Being roughly handled by the participant | Pulling of hair, squeezed when hugged, pulling of ear, tail, etc. |
| **Displacement signals** | Vocalisation | Growling, barking, whining, etc. |
| | Panting | An increased frequency of inhalation and exhalation, often in combination with the opening of the mouth |
| | Licking of nose | Part of the tongue is shown and moved along the upper lip |
| | Yawning | Mouth is open to apparent fullest extent while eyes are closed |
| | Avoiding/shy away from participant | Ducking their head or leaning away from participant |
| | Walks away | Walks away from situation, seeking to be left alone. |
| | Initiating contact with a participant | Walks over to someone without being called on, touches participant with snout or paw. |

**Table 2: Behavioural variables coded for in the video recordings of the behavioural tests.**

| | Variable | Description |
|---|---|---|
| **Focus on the exercise** | Actively trying to open bucket | Physically trying to open the bucket using paw, nose or teeth |
| | Passively trying to open the bucket (no physical contact with bucket) | Asking for help from the examiner or handler.<br>Standing still looking at the bucket, the examiner or the handler.<br>Growling, barking or whine towards the examiner, the handler or the bucket. |
| **Head orientation** | Towards examiner | Head and gaze oriented towards examiner |
| | Towards bucket | Head and gaze oriented towards bucket |
| | Towards handler | Head and gaze oriented towards handler |
| | Towards environment/other | Head and gaze oriented towards other |
| **Behaviour** | Search behaviour/ losing interest in the bucket/the task | Walks around, sniffing, not paying attention to bucket |
| | Vocalisation | Growling, barking, whining, etc. |
| **Distance from bucket** | Within a dogs length | |
| | Outside a dogs length | |

### 3.5.3 Log sheets

After every intervention the dog handler had to fill out a standardized log sheet per participant regarding the participant's and the dog's behaviour during the sessions (appendix 6). The last five questions (3.1- 3.5) on the log sheet were about the dog's behaviour, and those are the questions that have been focused on in this study (translation in appendix 7). The log sheets that were filled out on the days of the video recording sessions have been selected for analyzes in this paper. As log-sheets were filled out for all of the participants separately, they were averaged per day per dog and these values were used in the analyses and shown in figures.

## 3.6 Statistical analysis

All the variables describing the dogs' behaviours during the video recorded interventions and the video recorded behavioural tests, as well as the questions from the log sheets, were compared using the Wilcoxon Signed Ranks Test. Displacement signals are presented in a box and whiskers chart to show the minimum and maximum values, as well as the median, for all the variables. Other descriptive data and the significant results from the log sheets are represented in clustered column charts or stacked bar graphs to illustrate the results in a clear and comprehensive way.

From the video recordings of the sessions the variables of activities were put together to 'total activity'. Variables like 'sitting on participants lap', 'being patted', and 'being handled by participant' were put together in 'total handling'. The variables 'being roughly handled', 'avoidance', 'walking away' and 'initiating contact' had a very low duration (less than 2% each) in total and where thus excluded from the analyzes.

# 4. Results

## 4.1 Video recordings – Animal assisted interventions

In this study the observed behaviours associated with stress in dogs were vocalization, licking of nose, yawning, avoidance, licking of participant and panting (see table 2). The frequencies of these behaviours can be seen in figure 1, excluded panting which was observed in duration (%) and is presented in figure 2.

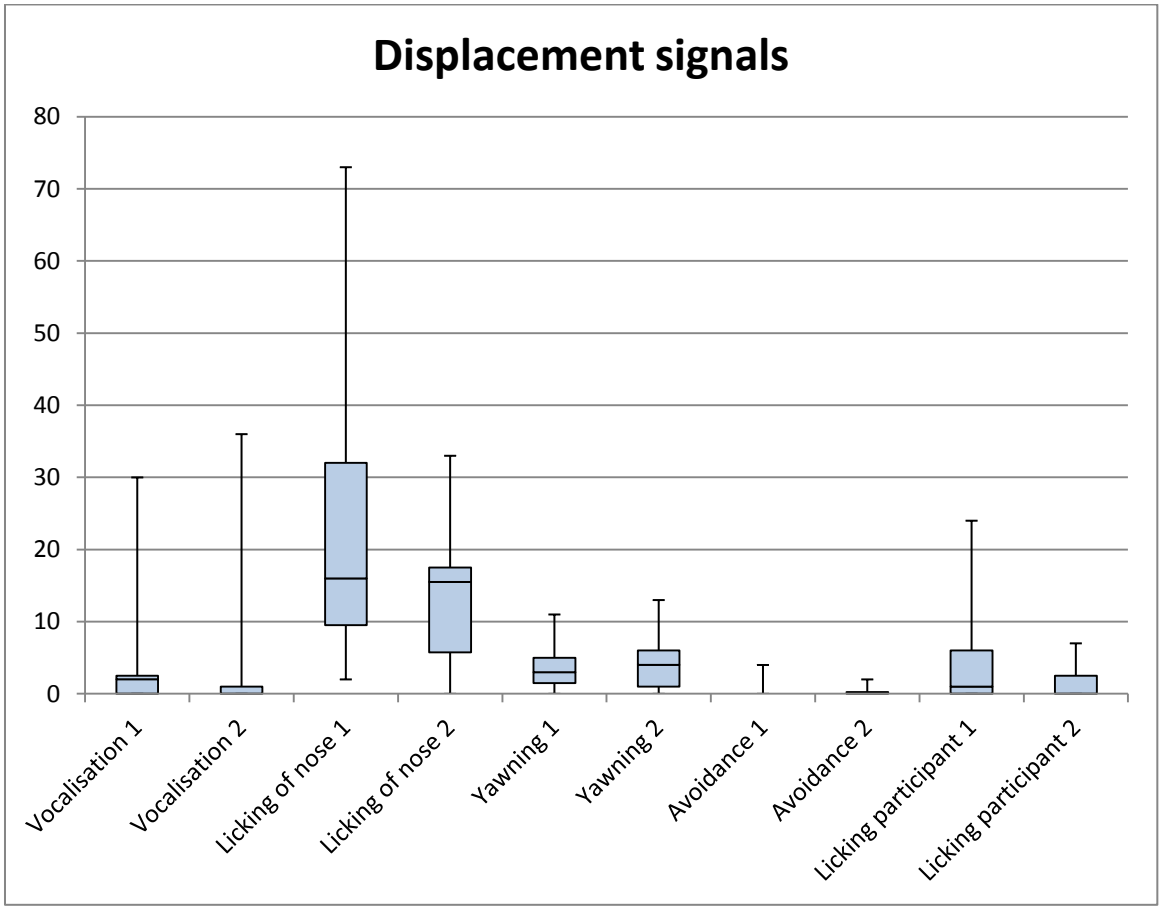


**Fig. 1 Displacement signals' frequencies from video recording 1 compared to video recording 2. Median, interquartile range (25-75%), minimum and maximum values are shown. (N=13. P > 0.05 in all cases).**

Comparisons of all the displacement signals variables from the video recordings of the interventions did not show any significant differences (P > 0.05) between first filming session and second filming session.

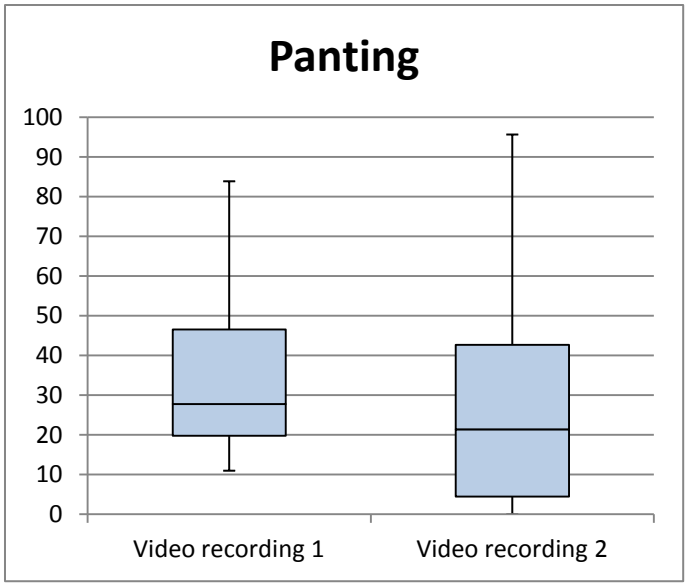


**Fig. 2 Distribution of panting (% of time). Median, interquartile range (25-75%), minimum and maximum values are shown. (N=13. P > 0.05).**

Comparison of panting behaviour from the video recordings of the interventions did not show any significant differences (P >0.05) between first filming session and second filming session.

Other behaviours not associated with stress responses like activities, body positions and head orientations are presented in figure 3.

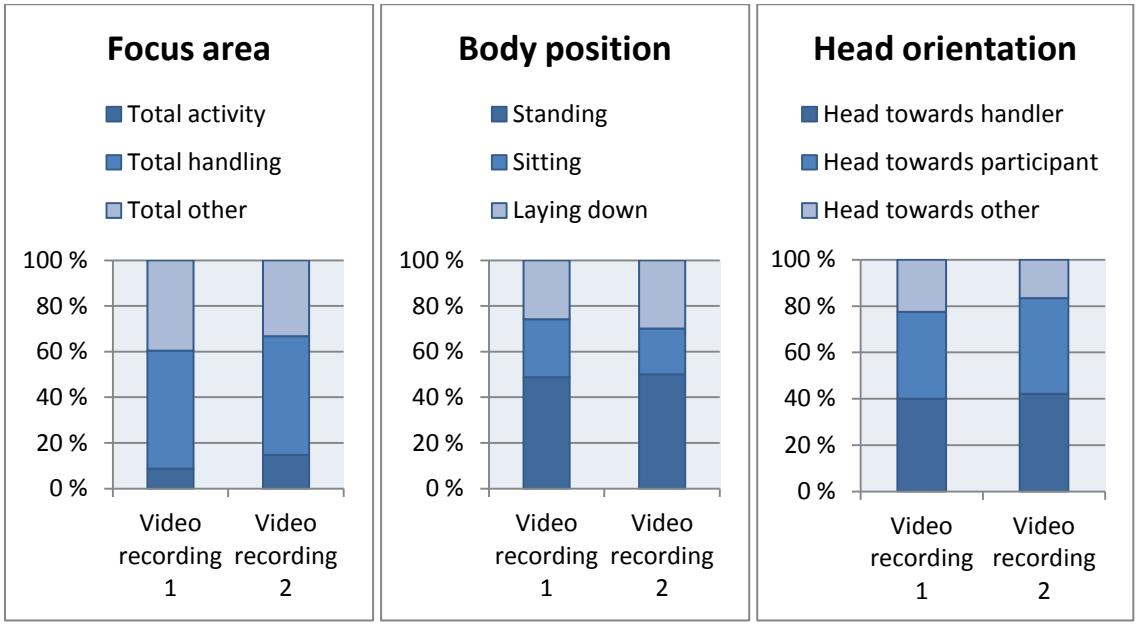


**Fig. 3 Distribution (% of time) of: (a) The focus area of the dog being on activity (cognitive, technical or physical activity), on handling by participants (being petted, getting treats or being brushed) or other. (b) Body position of the dog. (c) Head orientation of the dog.**

Comparisons of these variables from the video recordings of the interventions showed no significant differences (P > 0.05) between first filming session and second filming session. There was a trend for the dogs to look more at 'other' during the first filming session compared to the second (P = 0.075).

## 4.2 Video recordings – Behavioural test

For all the behaviours in table 3, comparisons were made between:

- 'resting day 1' and 'resting day 2';
- 'working day 1 before' and 'working day 1 after';
- 'working day 2 before' and 'working day 2 after';
- 'working day 1 before' and 'working day 2 before';
- 'working day 1 after' and 'working day 2 after';
- 'resting day 1' and ' working day 1 before'; and
- 'resting day 1' and 'working day 2 before'.

The two last comparisons were made to test for the possible effect of learning.

Distribution (% of time) of active and passive trials from the dogs on opening the bucket, in addition to search behaviour away from the bucket, can be seen in figure 4.

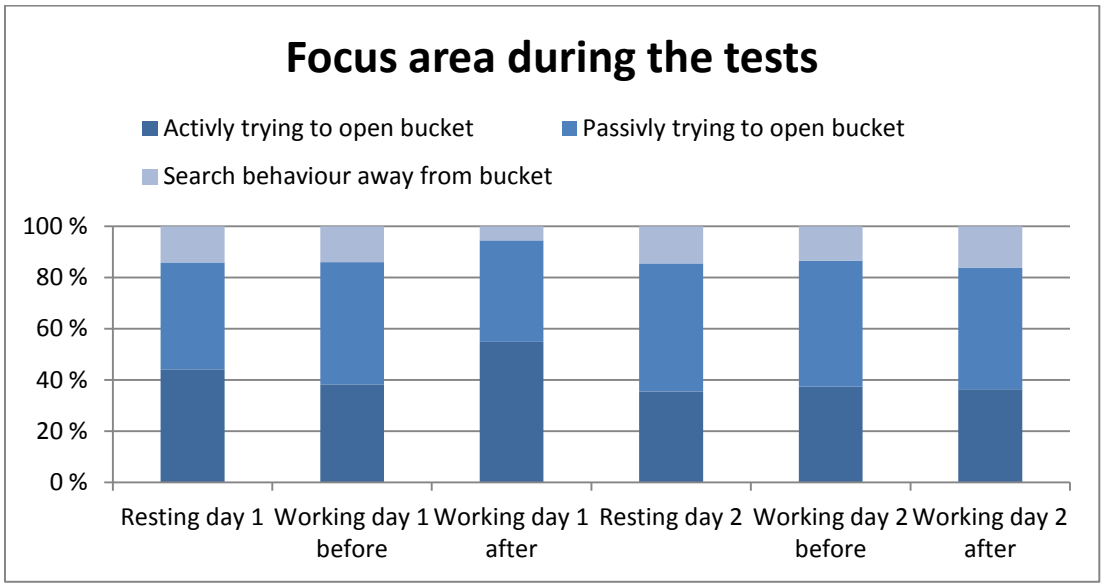


**Fig. 4 Distribution (% of time) of active and passive behaviour towards the bucket in addition to search behaviour away from the bucket (P > 0.05 in all cases).**

No significant differences (P > 0.05) were found between any of the comparisons for these behaviours.

Distribution (% of time) of head orientation during the tests can be seen in figure 5.

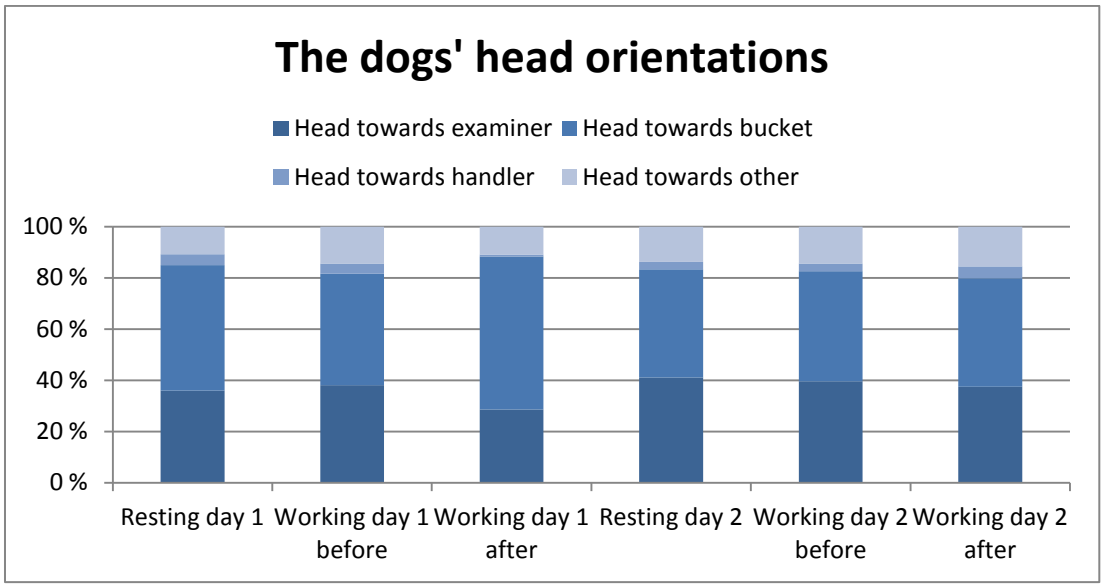


**Fig. 5 Distribution (% of time) of head orientation in all the behaviour tests (P > 0.05 in all cases).**

No significant differences (P > 0.05) were found for all the comparisons. Comparisons of 'working day 1 before' and 'working day 1 after' show a trend of more head orientation towards handler before compared to after (P = 0.058).

Comparisons were also made for the dogs' position in relation to the bucket. Distribution of the variables 'within a dogs length' and 'outside a dog's length' are represented in figure 6.

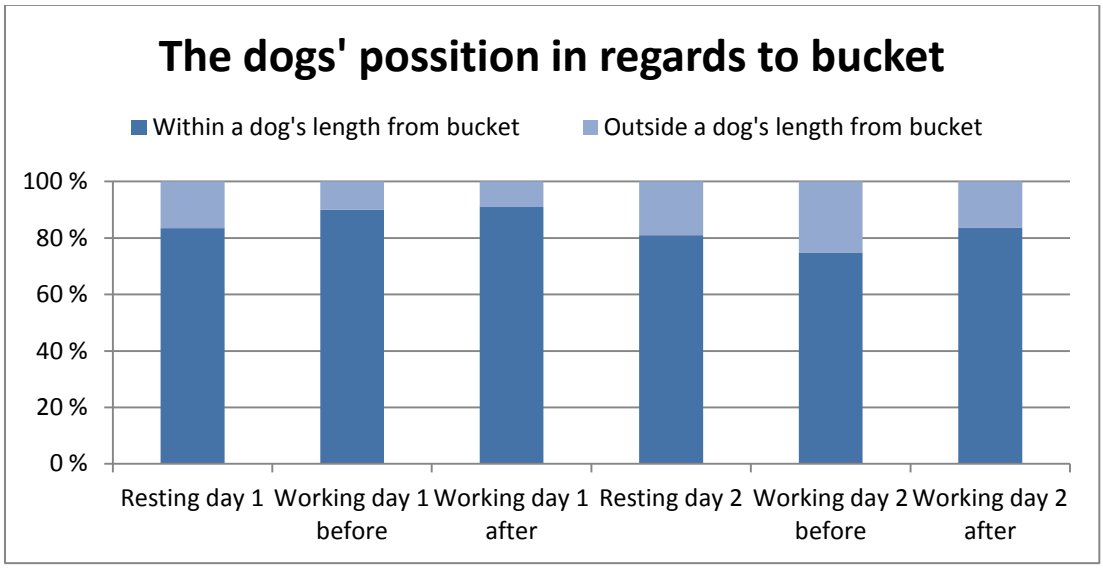


**Fig. 6 Distribution (% of time) of the dog's position in relation to the bucket in the behaviour tests (P > 0.05 in all cases).**

No significant differences (P > 0.05) of the dogs' position in relation to the bucket were found for any of the comparisons.

## 4.3 Log sheets

The log sheets that were filled out by the handlers after a session were compared on the days the video recordings took place. Comparisons of week 2 to week 10 showed no significant differences ($P > 0.05$) for the questions 'expressing happiness', 'displacement signals' and 'responsiveness to participant's commands' (see appendix 6).

According to the handler's opinion dogs were less focused on the handlers (see Figure 7, $P<0.05$) and were more willing to respond to commands of the handler (see Figure 8, $P< 0.05$) at the end of the study (on week10 compared to week2).

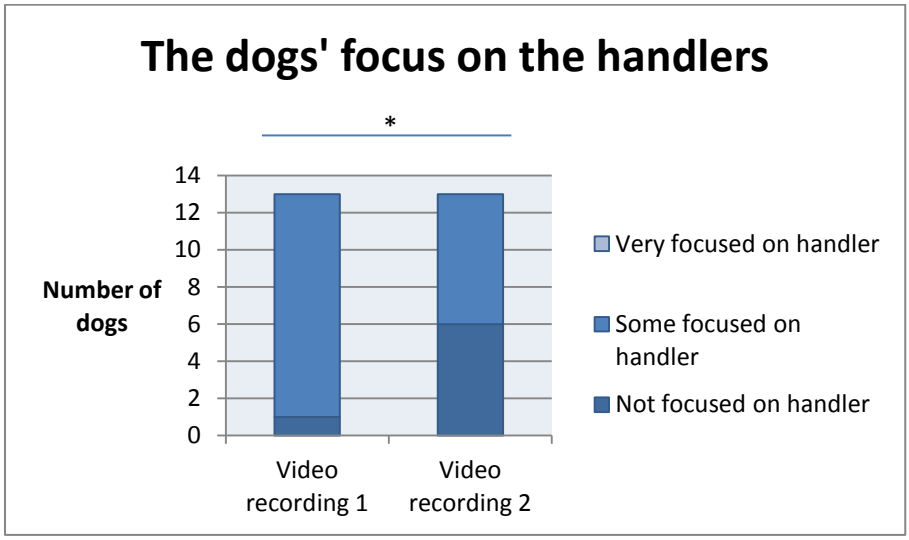


**Fig. 7 The dogs' focus on the handlers during video recording 1 compared to video recording 2. The dogs were significantly (* = P < 0.05) more focused on their handlers during video recording 1.**

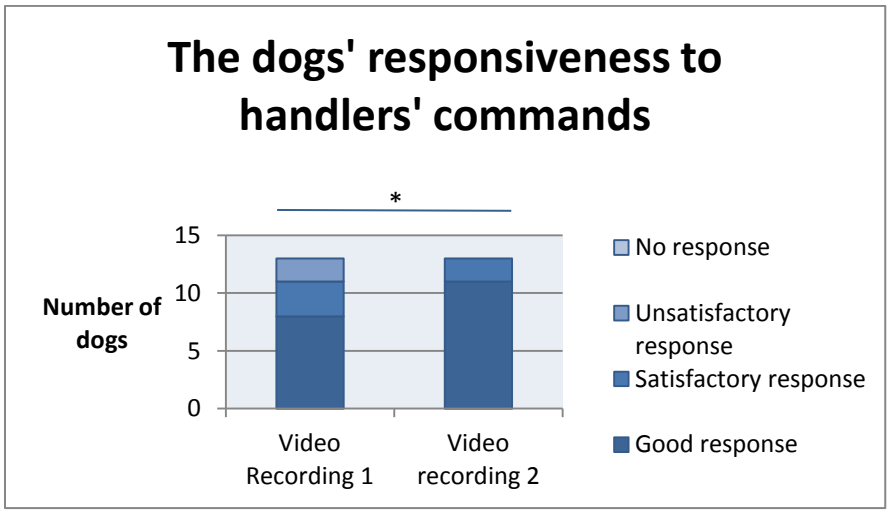


**Fig. 8 The dogs' responsiveness to the handlers' commands during video recording 1 compared to video recording 2. There were significantly (* = P < 0.05) more 'good response' during video recording 2.**

# 5. Discussion

## 5.1 The results

Analyses of displacement signals, and comparisons of the first filming session with the last, show a small decline in all variables, except yawning, during the interventions. However, none of these declines were significant. Although this is different from my expectations, this can be interpreted positively from applied view; there are no major changes in the dog's behaviours from week 2 compared to week 10, indicating that their experiences of the interventions does not change significantly over time. It is probable that these dogs were well prepared for the interventions even though most of them did not have too much/any experience on this field. This could indicate that: (1) the selections of the dogs were successful. The results from the mentality test gave them authorization to be a part of this study, and it shows that they were more than capable of handling the interventions. (2) The training before the mentality test and the training up to the start of the actual intervention work has been efficient. Good schooling of the dogs on different elements, and exposure to different environments, people, sounds, etc. has habituated the dogs to much of what can occur during an intervention (Haverbeke et al. 2008). (3) Dogs have the ability to adjust their behaviour flexibly to the environment, and fits this line of work because they are able to cope with high social demands (Vas et al. 2005).

The next question is whether the overall experience is positive or negative for the dogs. To find this out, a behavioural test was conducted to measure the dogs' concentration and motivation for a task at a baseline level (resting day 1) compared to before and after interventions in week 2 and week 10 of the study. Here, no significant differences were found for any of the comparisons (see what comparisons were made in chapter 4.2). This can be interpreted as a sign of little or no fatigue after a visit at a nursing home/day care centre. There are no differences in their attempt to get to the treat in the closed bucket, and there are no more search behaviours away from the bucket after a visit, compared to the resting days or the tests before a visit. When seeing the results from the behavioural tests in comparison with the results from the interventions, we can see that the dogs' experiences are more or less the same over a period of time, and due to the results from the behavioural test it is possible to assume that the welfare of the dogs has not been compromised. These results support the findings of Glenk et al. (2014) where no significant effect of behavioural responses associated

with stress were found in dogs working with animal-assisted interventions compared to days of not working.

Although some pilot tests were conducted during the planning phase of the experiment before the real tests on the therapy dogs were started, the behavioural test might not be a good measurement for concentration and/or motivation on the study sample. The test lasted for less than 4 minutes in total, and the aim of the test was to see how the dogs performed in step 7 (see chapter 3.4) which only lasted for 60 seconds. Due to this the test might have been easy for the dogs to conduct because it did not require their attention for more than approximately 4 minutes. In addition the treat used during the tests (pieces of ham) might have been so appealing for them that nothing else mattered (i.e. tiredness, fatigue, etc.). The dogs received a lot of treats during the sessions, but no significant changes were found when comparing the test before a session with the test after a session. This could indicate that even though the dogs probably were quite full after all the treats, the treats provided in the tests were still appealing enough for them to keep their focus. As the behaviour test was designed with the aim of observing as spontaneous behaviour as possible with keeping the conditions standard to make comparisons available, we tried to avoid cues that could make the test into a task for the dogs, therefore we did not use commands or any reinforcement during the trials. We conclude that although the test might not be sensitive enough, it modelled an out-of-work situation, where all the dogs showed high energy. This indicates that these animals were not retained from normal activity and tiredness were not a consequence of the work.

The results from the log-sheets that were filled out by the handlers after the interventions show no significant differences for variables ‘expressing happiness’, displacement signals’ or ‘responsive to the participant’s commands’. For the variables ‘focus on the handler’ and ‘responsive to the handler’s commands’ significant differences ($P < 0.05$) were found. The dogs were less occupied by their handlers during week 10 compared to week 2. This could be an indication of the dogs feeling more at ease in the situation after a period of time, and being less dependent on their handlers during the visits. The handlers also report that their dogs are more responsive to commands in week 10 compared to week 2. This could indicate that it is easier for the dogs to concentrate on tasks that are given to them, and that the excitement of being in a new place is settling down. We can also argue that the dogs might experience less stress and less anxiety in week 10, resulting in more concentration and less restlessness. It might of course be just due to the situation being more familiar to the dog and thus behaviours like exploration and/or excitement of being in a new place are less prominent.

The results from the log-sheets are not corresponding with the results from the behavioural observations, where no changes were observed. Therefore, it is difficult to draw a specific conclusion based on the log-sheets alone. The log-sheets are based on observations made by the handlers, and their perception of their dogs' experiences during the visits. This perception can change over a period of time, (i.e. the handler feels more confident after a couple of visits and evaluates the same behaviour differently) and there can be individual differences from day to day in relation to i.e. daily mood. In addition the log sheets were created with the purpose of evaluating the therapy, focusing on the changes in the participants over time, and not to focus on the dogs' changes during time (see acknowledgement). Because of this it is not possible to fully compare the log-sheets to the results of the behavioural variables.

## 5.2 Stress and welfare

As found in the study mentioned in chapter 2.5 (Beerda et al. 2000) the duration and increasing severity of the stressful housing arrangements had an increasing effect on cortisol levels and the frequency of performing behaviours associated with stress. In this present study there were no significant changes over time regarding behaviours associated with stress, and these behaviours (displacement signals, see figure 1) had a frequency of less than 10 on average for both video recordings, except from licking of nose, and they all show a slight tendency of decreasing in the second video recording (see figure 1). As you can see, 'licking of nose' has a high frequency compared to the other variables. The activity of giving treats was well used during the approximately 30 minutes these interventions lasted, and those that are familiar with dogs know that they often lick their nose when they know there are treats coming. It is also a 'normal' thing for them to lick their nose after eating a handful of treats (i.e. one treat from every participant in the group on a row). We should therefore consider this as more than just a display of stress related behaviour. Overall I would consider the frequencies of the displacement signals to be minor. The behaviours associated with stress were not deafening, and it did not influence normal behaviour before, during or after an intervention (see Broom (1986) in chapter 2.5) The level of displacement signals can be defined as acceptable if they are considered in relations to the approximately 30 minutes every session lasted, and that the visits were restricted to twice a week for a period of 12 weeks. Originally, the intention was to make observations of other variables indicating positive, relaxed state i.e. tail wagging, tail posture, ear posture etc., but because of the morphologies of some of the dogs these variables were difficult to observe reliably.

For the variable ‘panting’ the duration was recorded, and also here the results show no significant differences from first video recording compared to the last (see figure 2). During second video recording there was one individual with an extreme value resulting in the high maximum value on that figure. This might have been due to high temperatures at the location, and should not necessarily be considered as a stress response.

In this present study there were also recordings made for behavioural variables like ‘rough handling’, ‘withdrawal/avoidance from participant’ and ‘walk away’, and these are incidents that are considered negative when it comes to welfare of the dog during interventions. The recordings of these variables showed only a few (1-3) occurrences for all the dogs in all the videos, so the data was too limited to analyze. During the occurrence of ‘rough handling’ the handlers were quick to explain to the participant why such behaviour is unwelcome, and the situations were quickly sorted out. Occurrences of these situations, even though there were few of them in this study, show the importance of carefully explaining the correct way of interacting with a dog, and to introduce the dog and the participant properly before starting a session (Fine 2010; Odendaal & Meintjes 2003; Vas et al. 2005). It is equally important for the handler to always pay attention and to interfere in a situation before the dog shows signs of stress and/or discomfort (Fine 2010). These are important steps to ensure safe interaction between participant and dog, and to avoid negative or potentially dangerous situations (see chapter 2.6).

## 5.3 Training and habituation

The findings of Havbeke et al. (2008) could indicate that trained dogs can learn to habituate to stimuli that they may be exposed to during work (see chapter 2.3.2 for more information about this study). The interesting result from the study is that dogs can habituate to certain stimuli if they are exposed to it and trained to handle it from a young age. This could also be translated to dogs working with animal assisted interventions. As long as they are well trained from a young age and exposed to different situations and objects they might encounter during work, they should be well equipped to handle interventions and the challenges it might bring. One could say that the findings of Havbeke et al. (2008) support the findings of Glenk et al. (2014) where no significant effect of behavioural responses of stress were found in dogs working with animal-assisted interventions. Dogs that are working with animal assisted interventions have usually gone through training and testing for this line of work, and are found authorized to be intervention dogs. In this present study all the dogs involved had to be

authorized through a mentality test before they were accepted into the study. A dog can be a great family dog, work well with people it knows and behave well around children, but that does not necessarily mean that it is a well functioning and suitable AAI dog. Consequently, it was essential to test the dogs in certain elements to ensure they were fit for the tasks in this study, both psychologically and in skills, and to eliminate dogs that were not suited (i.e. aggressive, too hyper/enthusiastic, etc) or that should not be exposed to this kind of work (i.e frightened, overly stressed, injured and/or sick dogs, etc.).

## 5.4 Further research

A limitation in this study is that no control group has been observed under similar conditions as the AAI dogs. For further research it would ideally be a control group as well as larger sample size. It would then make it possible to compare AAA and AAT on activity level, social interaction etc during an intervention, and to look at general family dogs placed in similar situations. During the behavioural registrations of the video recordings an unofficial observation was made of differences between AAA and AAT. When looking at the videos it looked like dogs working in AAA had a much higher frequency of social interactions during the sessions compared to dogs in AAT. It would be really interesting to research this further, and figure out if this really is the case. In addition it would be interesting to further investigate the research of King et al. (2011) on the effect of a time- out session during an intervention. Longer time-out sessions should be applied, but it would also be of interest to see if a break from activity, just away from the full focus of the participants, during an intervention would be beneficial for the levels of cortisol in the dog.

In further research it would also be beneficial to make a clearer and more restricted plan for the sessions, both in AAA and AAT. The activities in AAT should be less to choose from, and the handlers should have better instructions and practice in certain chosen activities before starting the interventions. In doing so the activities during the AAT sessions would be more homogenous, and thus easier to compare. In addition it would be interesting to emphasize play activity between the humans and the dogs to observe for positive and relaxed behaviours in the dogs (Horváth et al. 2007a).

Last, but not least, it would be interesting to measure physiological responses before, during and after interventions as well as behavioural measurements. In this study sampling of blood and/or saliva were considered to be too expensive and too demanding for the restricted timeframe of this paper.

## 6. Conclusion

During AAI these dogs showed some signs of behaviours associated with stress and discomfort but it is minor. The positive effect this activity has on human health outweighs the minor signals of stress the dogs seemed to experience. Well trained dogs with appropriate formal experience and training can cope with animal assisted interventions and the challenges involved. The dogs in this study seem to be confident and at ease with the job. After settling down with meeting new people and being in a new environment the job does not seem to be extremely demanding. The behaviours of the dogs are constant over time and the handlers report positive observations of their dogs. The results from this study might indicate that the welfare of dogs working with animal assisted intervention is not compromised.

## 7. References


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## Appendix 1

Information about the dogs participating in this study

**Information about the dogs participating in this study**

| Name | Breed | Age | Sex | AAA or AAT | Experience with AAI |
|---|---|---|---|---|---|
| **Asterix** | Mix | 7 years | Male (nutured) | AAA | None |
| **Ally** | Longhaired collie | 5 years | Female | AAA | Some AAA in nursing homes |
| **Nemo** | Flatcoated retriever | 10 years | Male | AAA | Private visits in nursing home |
| **MacKenzie** | Longhaired collie | 4 years | Female | AAA | None |
| **Victor** | Mix | 2,5 years | Male | AAA | None |
| **Alfa** | Mix | 13 years | Female | AAA | None |
| **Marko** | Pomeranian | 4 years | Male | AAA | None |
| **Caisa** | Shetland sheepdog | 6 years | Female | AAA | None |
| **Lukas** | Standard poodle | 5 years | Male | AAT | Therapy dog for 2,5 years |
| **Shaggy** | Nova Scotia duck tolling retriever | 7 years | Male | AAT | None |
| **Nita** | Standard poodle | 3 years | Female | AAT | None |
| **Saga** | Rottweiler | 4,5 years | Female | AAT | School-dog for 2,5 years |
| **Ekiro** | Nova Scotia duck tolling retriever | 8 years | Male (nutured) | AAT | None |

## Appendix 2

Mentality test by the Norwegian Centre of Anthrozoology - in Norwegian (original).

AntrozoologiSenteret

# Skjema for mentalbeskrivelse på hunder til dyreassistert intervensjon

Hundens navn: Eiers navn:

Dato:

| | Moment | Beskrivelse av moment | Hundens atferd | Skåre | Hundens skåre |
|---|---|---|---|---|---|
| **Aggresjon** | Mot andre hunder | Ekvipasjen passerer en annen hund i det den kommer inn. Hunden skal passere med mindre enn 1 meters avstand. | Hunden viser en kraftig reaksjon (redsel/aggresjon) | 0 | |
| | | | Hunden viser ingen aggresjon/frykt | 1 | |
| | | | Annet | | |
| | Mot mennesker | Figurant evt. testleder hilser på fører og hund | Hunden gjør utfall eller trekker seg tilbake | 0 | |
| | | | Hunden står rolig eller er imøtekommende | 1 | |
| | | | Annet | | |
| **Hilsing** | Møte med bruker | Hund og fører hilser på figurant evt. testleder. Figurant/testleder hilser litt voldsomt på hunden og klapper den litt røft. | Hunden sitter/ligger ikke og/eller hilser for voldsomt | 0 | |
| | | | Hunden sitter/ligger urolig og/eller hilser litt voldsomt | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| | | | Hunden sitter/ligger og hilser rolig | 2 | |
| **Temperament** | Berøring | | Hunden trekker seg tilbake, viser ubehag, eller hopper opp på figurant | 0 | |
| | | | Hunden står rolig, logrer, slikker figurant | 1 | |
| | | | Annet | | |
| | Røff behandling | | Hunden biter, prøver å flykte | -2 | |
| | | | Hunden viser dempende signaler | 0 | |
| | | | Hunden forholder seg passiv | 1 | |
| | | | Annet | | |
| **Sosialitet** | Gå inn i et ukjent rom uten kobbel, det sitter en figurant i rommet | Figurant eller testleder sitter i rommet når hunden slippes inn. | >20 s | 0 | |
| | | | 20-10 s | 1 | |
| | | | <10s | 2 | |
| | Tar hunden mat? | Det ligger menneskemat lett tilgjengelig | Ja | 0 | |
| | | | Nei | 1 | |
| | Hundens interesse for mennesker | Alle mennesker skal sitte stille og ikke gi hunden noe oppmerksomhet. | Hunden trekker seg tilbake | -1 | |
| | | | Hunden forholder seg passiv/overser | 0 | |
| | | | Hunden løper mot figurant (overfaller) | 1 | |
| | | | Hunden søker kontakt med figurant | 2 | |
| | | | Hunden søker kontakt med figurant og logrer og/eller slikker figurant | 3 | |
| | | | Annet | | |

| | | | | | |
|---|---|---|---|---|---|
| | Tegn på usikkerhet mens hunden er i rommet | | Vedvarende | 0 | |
| | | | Slår seg til ro etter hvert | 1 | |
| | | | Undersøker/peser ikke/slapper av | 2 | |
| | | | Annet | | |
| | Hundens reaksjon på plutselig ”lyd” | Figuranten eller testleder lager plutselig høy lyd (skrik) | Trekker seg unna | 0 | |
| | | | Oppsøker figurant/forholder seg passiv | 1 | |
| | | | Annet | | |
| | Hundens tendens til å vokte (banking på døra) | Etter ca 2 minutter banker figuranten på døren før figuranten kommer inn i rommet og går og setter seg. | Bjeffer | 0 | |
| | | | Trekker seg unna | 0 | |
| | | | Ingen reaksjon/snur seg mot døren | 1 | |
| | Hundens interesse for mennesker | Figurant/testleder roper hunden til seg, klapper og godsnakker med hunden | Hunden trekker seg tilbake | -1 | |
| | | | Hunden overser figurant | 0 | |
| | | | Hunden løper mot/overfaller figuranten (uhøflig hilsen) | 1 | |
| | | | Hunden søker kontakt med figurant | 2 | |
| | | | Hunden søker kontakt med figurant og logrer og/eller slikker figurant | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | Tendens til å hoppe på mennesker | Testleder/figurant oppfordrer hunden til å hoppe opp på seg | Hunden gjør utfall | -1 | |
| | | | Hunden gjemmer seg bak fører | -1 | |
| | | | Hunden søker ikke kontakt | 0 | |
| | | | Hunden hopper (støter) >1 gang | 0 | |
| | | | Hunden står på to (støter) kontrollert | 1 | |
| | | | Hunden søker kontakt med hopper ikke | 2 | |
| | | | Annet | | |
| **Hundens atferd overfor potensielt skremmende påvirkning** | Rullestol | Figuranten sitter i rullestol, rullestolen kommer frem bak en dør eller lignende når hund og fører beveger seg mot. Rullestolen skal kjøres sakte og monotont, mens figuranten lener seg fremover og stirrer | Hunden gjør utfall/bjeffer | -2 | |
| | | | Hunden trekker seg tilbake | 0 | |
| | | | Hunden forholder seg passiv | 1 | |
| | | | Hunden søker kontakt med figurant | 2 | |
| | Krykker | Figuranten kommer frem bak en dør eller lignende når hund og fører beveger seg mot. Figuranten skal bruke krykker og skal være noe vinglete og bråkete når han/hun beveger seg fremover mot hund og fører. | Hunden gjør utfall/bjeffer | -2 | |
| | | | Hunden trekker seg tilbake | 0 | |
| | | | Hunden forholder seg passiv | 1 | |
| | | | Hunden søker kontakt med figurant | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | | Idet hund og fører passerer figurant mister figuranten krykkene hardt i gulvet. | Hunden gjør utfall/bjeffer | -2 | |
| | | | Hunden trekker seg tilbake | 0 | |
| | | | Hunden skjelver men blir stående | 1 | |
| | | | Hunden forholder seg passiv | 2 | |
| | | | Hunden ser mot lyden/objektet | 3 | |
| | Avreagerer | | Ja | 5 | |
| | | | Nei | -5 | |
| **Sosialitet** | Hoppe opp i en seng med fremmed person | Figuranten ligger i en seng og hundefører får beskjed om at hunden skal hoppe opp i sengen og legge seg med hodet mot figuranten | Hunden adlyder ikke | -1 | |
| | | | Tre< | 0 | |
| | | | To | 1 | |
| | | | En | 3 | |
| | Opprettholdelse av atferden som er kommandert | Figuranten skal klemme og kose med hunden | Hunden blir ikke liggende | 0 | |
| | | | <5s | 1 | |
| | | | 5s | 2 | |
| | | | Hunden blir liggende til ny kommando er gitt | 3 | |
| | Hundens opplevelse av momentet | | Hunden vil bort fra situasjonen | -1 | |
| | | | Hunden blir liggende men trives ikke i situasjonen | 0 | |
| | | | Hunden aksepterer handlingen | 1 | |
| | | | Hunden trives | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | Gå i trapper sammen med figurant | | Hunden går ikke i trapp | -1 | |
| | | | Hunden stresser/jager | 0 | |
| | | | Hunden nøler | 1 | |
| | | | Hunden følger figurant | 2 | |
| **Sitt** | Forståelse for kommando | Får beskjed om å kommandere hunden til å sitte | Hunden adlyder ikke | -3 | |
| | | | Nøler | 1 | |
| | | | Umiddelbart | 2 | |
| | Hurtig | | Nøler | 0 | |
| | | | Umiddelbart | 1 | |
| | Opprettholdelse av atferd som er kommandert | | <5s | 1 | |
| | | | 5-10s | 2 | |
| | | | 10s | 3 | |
| **Ligg** | Forståelse av kommando | Får beskjed om å kommandere hunden til å ligge | Hunden adlyder ikke | -1 | |
| | | | Nøler | 1 | |
| | | | Umiddelbart | 2 | |
| | Hurtig | | Nøler | 0 | |
| | | | Umiddelbart | 1 | |
| | Opprettholdelse av atferd som er kommandert | | <5s | 1 | |
| | | | 5-10s | 2 | |
| | | | 10s | 3 | |
| **Stå opp** | Forståelse for kommando | | Hunden utfører ikke kommando | 0 | |
| | | | Nøler | 1 | |
| | | | Umiddelbart | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| **Lek** | Hunden leker | Figuranten oppfordrer til lek med hunden. Om hunden ikke leker med ”lånt” leke, kan vi høre om hunden har en favorittleke som kan brukes. | Nei | 0 | |
| | | | Ja | 1 | |
| | Hundens atferd under lek (bjeffing, hopping, biting) | (Flere atferder kan krysses av) | Biter/nafser | -3 | |
| | | | Knurrer/bjeffer | -1 | |
| | | | Hunden leker alene | -1 | |
| | | | Hopper | -1 | |
| | | | Kommer tilbake med leken | 2 | |
| | | | Aksepterer at figurant tar leken i fra | 2 | |
| **Ressursforsvar** | Hundens anlegg for å forsvare noe den kan oppleve som en ressurs | En skål med gode godbiter gis hunden, figuranten tar bort skålen mens hunden spiser | Hunden gjør utfall | -3 | |
| | | | Hunden hopper/prøver å få tilbake ”ressursen” | -1 | |
| | | | Hunden aksepterer handlingen | 1 | |
| **Sosialitet** | Hundens atferd i gruppe | Her kan man ha med alle som er tilstede under testen. Alle samles i en tett halv-/sirkel og beveger seg mot hund og fører. | Hunden klatrer på fører | -1 | |
| | | | Hunden vil ut av gruppa | -1 | |
| | | | Hunden viser tegn på usikkerhet | 0 | |
| | | | Hunden søker kontakt med gruppa/er trygg | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| **Skuddprøve** | Hundens reaksjon på skudd | Skuddprøve under gange | Hunden gjør utfall/bjeffer | -1 | |
| | | | Hunden blir redd og løper unna | -1 | |
| | | | Hunden blir redd og trekker seg tilbaker | 0 | |
| | | | Hunden reagerer men går videre umiddelbart | 2 | |
| | | | Hunden går uten å reagere | 3 | |
| | | Skuddprøve under passivitet | Hunden gjør utfall/bjeffer | -1 | |
| | | | Hunden blir redd og løper unna | -1 | |
| | | | Hunden blir redd og trekker seg tilbaker | 0 | |
| | | | Hunden reagerer men forholder seg passiv | 2 | |
| | | | Hunden forholder seg passiv | 3 | |
| | | **Max skåre** | | 64 | |
| | | **Hunden total skåre** | | | |
| **Øvrige kommentarer** | | | | | |

## Appendix 3

Mentality test by the Norwegian Centre of Anthrozoology (English translation).

AntrozoologiSenteret

# Questionnaire for mental description of dogs for animal assisted interventions

Name of dog: Name of owner:

Date:

| | Elements | Descriptions of elements | The dog's behaviour | Score | The dog's score |
|---|---|---|---|---|---|
| **Aggression** | Towards other dogs | The dog and handler passes another dog in the doorway. The dogs shall pass at a distance less than 1 metre. | The dog display a strong reaction (fear/aggression) | 0 | |
| | | | The dog display no fear or aggression | 1 | |
| | | | Other | | |
| | Towards humans | Examiner or test leader greets the handler and the dog. | The dug lunges or withdraw | 0 | |
| | | | The dog stands calmly and attentive | 1 | |
| | | | Other | | |
| **Greeting** | Meet with client | Dog and handler greets examiner or test leader. Examiner greets the dog a bit roughly, petting it roughly. | The dog is not sitting/lying down and/or greets to roughly | 0 | |
| | | | The dog is restlessly sitting/laying down and/or greets to roughly | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| | | | The dag is sitting/laying down and greets calmly | 2 | |
| **Temperament** | Touching | | The dog withdraws, shows signs of discomfort, or jumps up on the examiner | 0 | |
| | | | The dog stands calmly, wags his tail, licks the examiner | 1 | |
| | | | Other | | |
| | Rough handling | | The dog bites, tries to run away | -2 | |
| | | | The dog shows displacement signals | 0 | |
| | | | The dog is passive | 1 | |
| | | | Other | | |
| **Sociability** | Off leash walk into an unfamiliar room, examiner is sitting in the room | Examiner or test leader sits in the room when the dog is let in | >20 seconds | 0 | |
| | | | 20-10 seconds | 1 | |
| | | | <10 seconds | 2 | |
| | Does the dog steal food? | Food is placed on a reachable place | Yes | 0 | |
| | | | No | 1 | |
| | The dog's interest towards humans | All the people in the room sit quietly, not paying the dog any attention | The dog withdraws | -1 | |
| | | | The dog is passive/ignores everyone | 0 | |
| | | | The dog runs towards examiner (ambush) | 1 | |
| | | | The dog seeks contact with examiner | 2 | |
| | | | The dog seeks contact with examiner and wags its tail and/or licks the examiner | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | | | Other | | |
| | Signs of discomfort while the dog is in the room | | continuing | 0 | |
| | | | Calms down after some time | 1 | |
| | | | Investigates the room, are not panting, is calm | 2 | |
| | | | Other | | |
| | The dogs reaction to a sudden ”sound” | Examiner or test leader makes a sudden, high sound (scream) | Withdraws | 0 | |
| | | | Seek out the examiner/stays passive | 1 | |
| | | | Other | | |
| | The dog’s tendency to guard the door (knocking on the door) | After about 2 minutes an examiner knocks on the door before he/she enters the room and sits down | Barks | 0 | |
| | | | Withdraws | 0 | |
| | | | No reaction/turn toward the door | 1 | |
| | The dogs interest towards humans | Examiner/test leader calls the dog, pet it and talks to it in a positive and calm voice | The dog withdraws | -1 | |
| | | | The dog ignores the examiner | 0 | |
| | | | The dog run towards/ambush the examiner (rude greeting) | 1 | |
| | | | The dog seeks contact with examiner | 2 | |
| | | | The dog seeks contact with examiner, wags its tail and/or licks the examiner | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | Tendency to jump up on people | Examiner/test leader encourages the dog to jump up on her/him | The dog lunges | -1 | |
| | | | The dog hides behind handler | -1 | |
| | | | The dog does not seek contact | 0 | |
| | | | The dog jumps >1 time | 0 | |
| | | | The dog stands on its hind legs controlled | 1 | |
| | | | The dog seeks contact but does not jump | 2 | |
| | | | Other | | |
| **The dogs behaviour towards potentially scary influence** | Wheelchair | Examiner sits in a wheelchair; the wheelchair appears from behind a door when the dog and handler comes towards it. The wheelchair is slowly moving forward, the examiner leans forwards and stares at the dog | The dog lunges/barks | -2 | |
| | | | The dog withdraws | 0 | |
| | | | The dog is passive | 1 | |
| | | | The dog seeks contact with examiner | 2 | |
| | Crutches | The examiner is behind a door and appears when the dog and handler comes towards it. The examiner are using crutches and is a bit unsteady and noisy when he/she moves towards the dog and handler | The dog lunges/barks | -2 | |
| | | | The dog withdraws | 0 | |
| | | | The dog is passive | 1 | |
| | | | The dog seeks contact with examiner | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | | When the dog and the handler passes the examiner he/she drops the crutches hard to the floor | The dog lunges/barks | -2 | |
| | | | The dog withdraws | 0 | |
| | | | The dog is shaking, but stands still | 1 | |
| | | | The dog is passive | 2 | |
| | | | The dog looks towards the sound/the objects | 3 | |
| | ”Lets of steam” | | Yes | 5 | |
| | | | No | -5 | |
| **Sociability** | Jump up in a bed with a stranger (human) | Examiner is in a bed and the handler commands the dog to jump up in the bed and lay down with its head towards the examiner | The dog does not obey | -1 | |
| | | | More than three commands | 0 | |
| | | | Two commands | 1 | |
| | | | One command | 3 | |
| | Maintaining the commended behaviour | The examiner is hugging and snuggling the dog | The dog jumps down | 0 | |
| | | | Lays there for less than 5 seconds | 1 | |
| | | | Lays there for 5 seconds | 2 | |
| | | | The dog stays until new command is given | 3 | |
| | The dog’s experience of the element | | The dog wants to move away from the situation | -1 | |
| | | | The dog stays but is uncomfortable | 0 | |
| | | | The dog accepts the handling | 1 | |
| | | | The dog enjoys it | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | Walk in stairs lead by the examiner | | The dog does not walk in stairs | -1 | |
| | | | The dog is stressed | 0 | |
| | | | The dog hesitates | 1 | |
| | | | The dog follows the examiner | 2 | |
| **Sit** | Understanding of the command | The handler commands the dog to sit | The dog does not obey | -3 | |
| | | | The dog hesitates | 1 | |
| | | | The dog responds right away | 2 | |
| | Fast response | | Hesitates | 0 | |
| | | | Right away | 1 | |
| | Maintaining the commanded behaviour | | Less than 5 seconds | 1 | |
| | | | 5-10 seconds | 2 | |
| | | | 10 seconds | 3 | |
| **Lay down** | Understanding of the command | The handler commands the dog to lay down | The dog does not obey | -1 | |
| | | | The dog hesitates | 1 | |
| | | | The dog responds right away | 2 | |
| | Fast response | | Hesitates | 0 | |
| | | | Right away | 1 | |
| | Maintaining the commanded behaviour | | Less than 5 seconds | 1 | |
| | | | 5-10 seconds | 2 | |
| | | | 10 seconds | 3 | |
| **Stand** | Understanding of the command | | The dog does not obey | 0 | |
| | | | The dog hesitates | 1 | |
| | | | The dog responds right away | 2 | |
| **Play** | The dog is playing | Examiner invites the dog to play. If the dog does not want to play with a ”borrowed” object its | No | 0 | |

| | | | | | |
|---|---|---|---|---|---|
| | | favourite toy can be used | Yes | 1 | |
| | The dog's behaviour during play (barking, jumping, biting) | (several behaviours can be checked of) | Bites | -3 | |
| | | | Growls/barks | -1 | |
| | | | The dog play on its own | -1 | |
| | | | Jumps | -1 | |
| | | | Returns the toy | 2 | |
| | | | Accepts it when the examiner takes the toy from the dog | 2 | |
| **Defence of resources** | The dogs tendency to defend something that can be viewed as a resource | A bowl of tempting treats is given to the dog, examiner removes while the dog is eating | The dog lunges | -3 | |
| | | | The dog jumps up/tries to retake the resource | -1 | |
| | | | The dog accepts the action | 1 | |
| **Sociability** | The dog's behaviour in a group | Everyone present (humans) stands in a circle around the dog, and movers towards the dog from all angles | The dog tries to climb its handler | -1 | |
| | | | The dog tries to move away from the group of people | -1 | |
| | | | The dog shows signs of discomfort | 0 | |
| | | | The dog seeks contact with the group/ looks calm | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| **Shot test** | The dog's reaction to a shot being fired | Shot test while the dog is walking | The dog lunges/barks | -1 | |
| | | | The dog gets scared and tries to run away | -1 | |
| | | | The dog gets scared and withdraws | 0 | |
| | | | The dog reacts to the sound, but keep on walking | 2 | |
| | | | The dog keeps walking without reaction | 3 | |
| | | Shot test while the dog is passive | The dog lunges/barks | -1 | |
| | | | The dog gets scared and tries to run away | -1 | |
| | | | The dog gets scared and withdraws | 0 | |
| | | | The dog reacts to the sound, but keep on walking | 2 | |
| | | | The dog stays passive | 3 | |
| | | **Max score** | | 64 | |
| | | **The dogs total score** | | | |
| **Other comments** | | | | | |

## Appendix 4

Declaration form by the Norwegian Centre of Anthrozoology - in Norwegian (original).

AntrozoologiSenteret

# *Egenerklæringsskjema*
# *Hunder til dyreassistert intervensjon*

## Personlige opplysninger

| | |
|---|---|
| Navn på eier | |
| Mail adresse | |
| Hjemmeadresse | |
| Telefon | |
| | |
| Navn på hund | |
| Rase | |
| Kjønn | |
| Født | |

## Generell informasjon

| | | |
|---|---|---|
| Hvorfor skaffet du deg hunden? | | |
| Hvor gammel var hunden ved anskaffelse? | | |
| Hvilket formål tenker du å bruke den til innen dyreassisterte intervensjoner: (sett kryss) | Dyreassistert terapi (DAT) | |
| | Dyreassistert pedagogikk (DAP) | |
| | Dyreassistert aktivitet (DAA) | |
| Hvordan opplever du hunden i hverdagen? (sett kryss) | Aktiv | |
| | Rolig | |
| | Sedat | |
| | Overaktiv | |
| | Vill | |

# *Egenerklæringsskjema*
# *Hunder til dyreassistert intervensjon*

**Hverdagen** (sett kryss)

| | Ja | Nei |
|---|---|---|
| Trekker hunden i koppelet? | | |
| Holder den seg i nærheten når den er fri? | | |
| Kan hunden være alene hjemme? | | |
| Biter den i stykker ting? | | |
| Er hunden stueren? | | |
| Har det hendt at den har markert innendørs? | | |
| Er hunden glad i mat? | | |
| Peser eller stresser hunden når den kjører bil, tog eller buss? | | |
| Spiser hunden mat den finner på gulvet eller utendørs? | | |

**Hverdagen** (beskriv så godt du kan)

| | |
|---|---|
| Hvordan reagerer hunden når du går i fra den? | |
| I hvilke tilfeller kan hunden være vaktsom? | |
| Beskriv hundens reaksjon når du tar fra den mat: | |
| Beskriv hundens reaksjon når du tar fra den en leke: | |
| Hvordan reagerer hunden i trafikken:<br><br>(beskriv hundens reaksjon på biler, busser og trailere både forfra og bakfra) | |

# *Egenerklæringsskjema*
# *Hunder til dyreassistert intervensjon*

| | |
|---|---|
| Beskriv hundens reaksjon på skarpe lyder og smell:<br><br>Har den andre reaksjoner i mørket: | |
| Beskriv hundens reaksjon på fyrverkeri og torden:<br><br>Har den andre reaksjoner i mørket: | |
| I hvilke tilfeller har hunden din vist engstelse, redsel eller aggresjon?<br><br>Beskriv så godt du kan: | |
| Beskriv hundens reaksjon på joggere, syklister og skiløpere:<br><br>Har den andre reaksjoner i mørket: | |
| Beskriv hundens atferd når dere er borte på besøk: | |

# *Egenerklæringsskjema*
# *Hunder til dyreassistert intervensjon*

**Sosialt** (beskriv så godt du kan)

| | | |
|---|---|---|
| Beskriv hundens atferd når det ringer på døra: | | |
| Beskriv hundens atferd når det kommer fremmede på besøk: | | |
| Beskriv hundens atferd i møte med fremmede? | Kvinner | |
| | Menn | |
| | Eldre | |
| Hvordan oppfører hunden seg rundt fremmede barn? | 0-2 år | |
| | 2-4 år | |
| | 4-10 år | |
| | 10-16 år | |
| Er hunden glad i nærkontakt med: | Familien | |
| | Fremmede | |

# *Egenerklæringsskjema*
# *Hunder til dyreassistert intervensjon*

| | | |
|---|---|---|
| Beskriv hundens reaksjon når den blir forstyrret når den hviler: | | |
| Beskriv hundens reaksjon på fremmede hunder når den er: | Innendørs | |
| | I bånd | |
| | Løs ute | |
| Beskriv hundens reaksjon ovenfor: | Katt | |
| | Fugl | |
| | Andre dyr | |

## Opplæring:

| | | |
|---|---|---|
| Hvilke kurs har du og hunden deltatt på: | Valpekurs | |
| | Grunnkurs | |
| | Appellmerkekurs | |
| | Annet (spesifiser) | |

# *Egenerklæringsskjema*
# *Hunder til dyreassistert intervensjon*

## Stell og pleie:

| | | |
|---|---|---|
| Beskriv hundens reaksjon når du: | Klipper klør | |
| | Børster | |
| | Sjekker ører | |
| | Sjekker øyne | |
| | Sjekker genitalier | |
| | Sjekker halen | |

## Helse:

| | |
|---|---|
| Har hunden noen gang vært syk? | |
| Har hunden noen gang hatt skader? | |
| Har hunden din kroniske smerter? | |
| Går hunden på noen form for medisiner?<br><br>(i så fall hvilke) | |

# *Egenerklæringsskjema*
# *Hunder til dyreassistert intervensjon*

## Helse:

| | | | |
|---|---|---|---|
| Er det tatt røntgen av:<br><br>(Om Ja, hva er resultatet) | Hofter | Ja Nei | Resultat: |
| | Albuer | Ja Nei | Resultat: |
| | Rygg | Ja Nei | Resultat: |
| Har hunden vært til øyelysning? | Ja Nei | | Resultat: |

**Dato og sted:**

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Jeg bekrefter at jeg har prøvd å fylle ut opplysningene i beste hensikt

## Appendix 5

Declaration form by the Norwegian Centre of Anthrozoology (English translation).

# *Declaration form*
# *Dogs for animal assisted interventions*

## Personal information

| | |
|---|---|
| Name of owner | |
| E-mail address | |
| Address | |
| Phone number | |
| | |
| Name of dog | |
| Breed | |
| Sex | |
| Date of birth | |

## General information

| | | |
|---|---|---|
| Why did you get the dog? | | |
| How old was the dog when you got it? | | |
| What purpose in animal assisted interventions do you plan to use it for? (tick of) | Animal assisted therapy (AAT) | |
| | Animal assisted learning (AAL) | |
| | Animal assisted activity (AAA) | |
| How do you experience your dog in everyday life? (tick of) | Active | |
| | Calm | |
| | Sedated | |
| | Overly active | |
| | Wild | |

# *Declaration form*
# *Dogs for animal assisted interventions*

## **Everyday life** (tick of)

| | Yes | No |
|---|---|---|
| Does the dog pull on the leash? | | |
| Does it stay close to you when it is loose? | | |
| Is the dog able to be home alone? | | |
| Does it chew on/destroy stuff? | | |
| Is the dog housebroken? | | |
| Has it ever urinated inside to mark its territory? | | |
| Does the dog love food? | | |
| Does it pant or stress when it is in a car, on a train or on a bus? | | |
| Does the dog eat food it finds on the floor or on the ground outside? | | |

## **Everyday life** (describe as precise as you can)

| | |
|---|---|
| How does the dog react when you leave it behind? | |
| In what situations can the dog behave vigilant? | |
| Describe the dog's reaction when you remove food from it: | |
| Describe the dog's reaction when you remove a toy from it: | |

# *Declaration form*
# *Dogs for animal assisted interventions*

| | |
|---|---|
| How does your dog react to traffic?<br><br>(describe the dog's reaction towards cars, busses and trucks coming from behind or from in front of the dog) | |
| Describe the dog's reaction to sharp sounds or loud bangs:<br><br>Does it react differently in the dark than during the day? | |
| Describe the dog's reaction to fireworks and thunder storms:<br><br>Does it react differently in the dark than during the day? | |
| In what situations can your dog display behaviours like anxiousness, fear or aggression?<br><br>Describe as precise as you can: | |
| Describe the dog's reactions to joggers, cyclists and skiers:<br><br>Does it react differently in the dark than during the day? | |
| Describe the dog's behaviour when you are visiting other people: | |

# *Declaration form*
# *Dogs for animal assisted interventions*

**Socially** (describe as precise as you can)

| | | |
|---|---|---|
| Describe the dog's reaction when the doorbell rings: | | |
| Describe the dog's reaction when strangers are visiting: | | |
| Describe the dog's behaviour when meeting strangers: | Women | |
| | Men | |
| | Elderly people | |
| How is the dog behaving around children? | 0-2 years | |
| | 2-4 years | |
| | 4-10 years | |
| | 10-16 years | |
| Does the dog appreciate contact with: | The family | |
| | Strangers | |

# *Declaration form*
# *Dogs for animal assisted interventions*

| | | |
|---|---|---|
| Describe the dog's reaction if it is disturbed while resting/sleeping: | | |
| Describe the dog's reaction to unfamiliar dogs when it is: | Inside | |
| | On leash | |
| | Loose outside | |
| Describe the dog's reaction to: | Cats | |
| | Birds | |
| | Other animals | |

## Training:

| | | |
|---|---|---|
| What courses have you and the dog participated in? | Puppy course | |
| | Basic course | |
| | Obedience course | |
| | Other (specify) | |

# *Declaration form*
# *Dogs for animal assisted interventions*

## Stell og pleie:

| | | |
|---|---|---|
| Describe how your dog reacts to: | Trimming of claws | |
| | Brushing of fur | |
| | Check of ears | |
| | Check of eyes | |
| | Check of genitals | |
| | Check of tail | |

## Health:

| | |
|---|---|
| Has the dog ever been sick? | |
| Has the dog ever had injuries? | |
| Does your dog have chronic pains? | |
| Is your dog on any medication?<br><br>(if so, specify) | |

# *Declaration form*
# *Dogs for animal assisted interventions*

## Health:

| | | | |
|---|---|---|---|
| Has the dog been ex-rayed:<br><br>(If yes, what were the results?) | Hips | Yes No | Result: |
| | Elbows | Yes No | Result: |
| | Back | Yes No | Result: |
| Has the dog gotten its eyes checked? | Yes No | Result: | |

**Date og place:**

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

I confirm that the information provided is true and accurate

## Appendix 6

Log- sheet used in AAI - in Norwegian (original).

AntrozoologiSenteret

Deltakernummer: _____

# Skjema for logg i dyreassistert aktivitet fylles ut av hundefører

***"Dyreassisterte- og robotassisterte intervensjoner som helsefremmende tiltak for eldre med demens"***

*Dette skjemaet fylles ut av hundefører som en logg i etterkant av hver time med dyreassistert aktivitet. Dette skjemaet er til eget bruk, og skal inneholde hva som har foregått i hver enkelt sesjon samt registreringer hos deltakeren.*

**Dato:_____**

**Sesjon nr.:_____**

## 1. Gjennomføring/tiltak (flere kryss er mulig)

| | | | |
|---|---|---|---|
| Snakke til hunden | ☐ | Gi hunden godbit | ☐ |
| Klappe hunden | ☐ | Annet | ☐ |

Kommentarer:_____

_____

_____

_____

## 2. Registreringer hos deltakeren (sett ett kryss per punkt)

### 2.1. Aktivitet/deltakelse

| | |
|---|---|
| Pas. var veldig aktiv | ☐ |
| Pas. var noe aktiv | ☐ |
| Pas. var lite aktiv | ☐ |
| Pas. var ikke aktiv/passiv | ☐ |

### 2.2. Stemningsleie

Pas. viste mye smil og latter □

Pas. viste noe smil og latter □

Pas. viste ingen spesielle følelser □

Pas. virket lei seg/trist □

Pas. virket sint/sur □

Pas. gråt □

### 2.3. Konsentrasjon/uro

Pas. var rolig og viste god konsentrasjon □

Pas. var noe urolig men viste noe konsentrasjon □

Pas. var veldig urolig og viste lite konsentrasjon □

### 2.4. Kommunikasjon

Pas. kommuniserte mye med de andre i gruppen/terapeuten □

Pas. kommuniserte noe med de andre i gruppen/terapeuten □

Pas. kommuniserte lite med de andre i gruppen/terapeuten □

Pas. kommuniserte ikke med de andre i gruppen/terapeuten □

### 2.5. Interaksjon med hunden

Pas. interagerte mye med hunden □

Pas. interagerte en del med hunden □

Pas. interagerte lite med hunden □

Pas. interagerte ikke med hunden □

Kommentarer:_____

_____

_____

_____

## 3. <u>Hunden – førers observasjoner</u> (sett ett kryss per punkt)

### 3.1. Vise glede

Hunden viste mye glede □

Hunden viste noe glede □

Hunden viste ikke glede □

### 3.2. Opptatt av hundefører

Hunden var veldig opptatt av hundefører □

Hunden var noe opptatt av hundefører □

Hunden var ikke opptatt av hundefører □

### 3.3. Dempende signaler

Hunden viste mye dempende signaler □

Hunden viste noe dempende signaler □

Hunden viste ingen dempende signaler □

### 3.4. Lydhør

Hunden utførte kommandoer fra pas. på en god måte □

Hunden utførte kommandoer fra pas. på en tilfredsstillende måte □

Hunden utførte kommandoer fra pas. på en utilfredsstillende måte □

Hunden utførte ikke kommandoer fra pas. □

Ikke aktuelt □

### 3.5. Kontrollerbar

Hunden responderer godt på førers kommandoer og anvisninger □

Hunden responderer tilfredsstillende på førers kommandoer og anvisninger □

Hunden responderer dårlig på førers kommandoer og anvisninger □

Hunden responderer ikke på førers kommandoer og anvisninger □

Kommentarer:_____

_____

_____

_____

Skjemaet er utarbeidet av AntrozoologiSenteret

## Appendix 7

Questionnaires from log-sheet used in this present study (English translation).

Translation of the questions used in the paper from the log sheet

# ”Questionnaire for logging in animal assisted activity”.

## 3. The dog – the handler’s observations (tick one alternative per question)

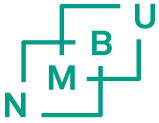
| **3.1 Expressing happiness** | **Score** |
|---|---|
| The dog expresses much happiness | (2) |
| The dog expresses some happiness | (1) |
| The dog does not express happiness | (0) |

| **3.2 Focused on handler** | |
|---|---|
| The dog was very focused on handler | (0) |
| The dog was some focused on handler | (1) |
| The dog was not focused on handler | (2) |

| **3.3 Displacement signals** | |
|---|---|
| The dogs showed much displacement signals | (0) |
| The dog showed some displacement signals | (1) |
| The dog showed none displacement signals | (2) |

| **3.4 Responsiveness to the participant’s commands** | |
|---|---|
| The dog executed commands from the participant in a positive way | (3) |
| The dog executed commands from the participant in a satisfactory way | (2) |
| The dog executed commands from the participant in an unsatisfactory way | (1) |
| The dog did not execute commands from the participant | (0) |
| Not relevant | (X) |

| **3.5 Responsiveness to the handler’s commands** | |
|---|---|
| The dog executed commands from the handler in a positive way | (3) |
| The dog executed commands from the handler in a satisfactory way | (2) |
| The dog executed commands from the handler in an unsatisfactory way | (1) |
| The dog did not execute commands from the handler | (0) |



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